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REMARKS

Claims 1 to 15 are pending

Claims 1, 12 and 15 are independent

Claims 1 to 6 and 11 to 15 stand rejected under 35 U.S.C. Section 103(a) as unpatentable over U.S. Patent No. 5,286,296 to Sato et al. (hereinafter "Sato") in view of U.S. Patent No. 4,997,364 to McGrath et al. (hereinafter "McGrath"), U.S. Patent No. 3,866,926 to Traum (hereinafter "Traum"), and U.S. Patent No. 5,381,014 to Jeromin et al. (hereinafter "Jeromin"). Claims 7 and 8 stand rejected under 35 U.S.C. Section 103(a) as unpatentable over Sato, McGrath, Traum and Jeromin in further view of U.S. Patent No. 5,980,991 to Sakamoto et al. (hereinafter "Sakamoto"). Claims 9 and 10 stand rejected under 35 U.S.C. Section 103(a) as unpatentable over Sato, McGrath, Traum, Jeromin, and Sakamoto in further view of U.S. Patent No. 4,531,047 to Canfield et al. (hereinafter "Canfield"). Applicants respectfully traverse these rejections.

Applicants assert that the Examiner's Section 103 rejections are not tenable (1) because the numerous references relied upon do not show all elements of any of the claims and (2) because the Examiner has not provided a proper motivation to combine the references.

Each of Applicants' independent claims recite an apparatus comprising

"a thermally isolating interface that reduces heat transfer from said first vacuum chamber to said second vacuum chamber . . . wherein said first vacuum chamber, said apparatus, and said second chamber are sealed together to form a closed environment having an internal pressure that is less than standard atmospheric pressure."

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Despite the Examiner's assertion to the contrary, the references do not teach or suggest this feature of the claims.

Sato does not teach such an interface at all. The Examiner attempts to assert that the "gate valve 2" disclosed in Sato is a thermally isolating interface that reduces heat transfer **if the gate valve is closed between the two chambers**. However, Applicants' claims specify that the thermally isolating interface of the present invention reduces heat transfer when "said first vacuum chamber, said apparatus, and said second chamber are sealed together to form a closed environment." If the Sato gate valve is closed, then the chambers are not "sealed together to form a closed environment." Thus, the Examiner's characterization of the Sato gate valve is inaccurate.

McGrath does not teach a thermally isolating interface between vacuum chambers either. McGrath discloses baffle gate chambers on either end of a furnace for reflowing solder on printed circuit boards. The Examiner asserts that the baffle gate chambers are thermally isolating interfaces that anticipate Applicants thermally isolating interface. However, the McGrath baffle gate chambers have "open ends." (col. 2, lns. 58 to 60) Thus, the McGrath open ended baffle gate chamber is not an interface "that reduces heat transfer from . . . [a] first vacuum chamber to . . . [a] second vacuum chamber" as recited in each of Applicants' independent claims.

Traum discloses a carburetor gasket for an internal combustion engine. Clearly Traum does not teach "a thermally isolating interface that reduces heat transfer from . . . [a] first vacuum chamber to . . . [a] second vacuum chamber."

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Jeromin discloses a "large area x-ray imager and method of fabrication" and appears to be irrelevant. The passage that the Examiner cites states:

One preferred binder comprises copolymers of alkyl acrylates and methacrylates with acrylic and methacrylic acid.

In FIG. 1, the radiation detecting layer 14 is applied over the plurality of array modules 17, using vapor deposition techniques, in sufficient thickness to absorb the incident X-radiation . . . (Jeromin, col 4, lines 20 to 24)

and the remainder of the reference do not appear to have anything at all to do with the subject matter of Applicants' invention. Clarification is respectfully requested.

Therefore, none of the relied upon references (Sato, McGrath, Truam, and Jeromin) teach the above described feature of Applicants' claims. Based on the absence of such a feature from the references, Applicants assert that the Examiner's Section 103(a) rejections are untenable and respectfully request withdrawal of the rejections.

Further, even if the relied upon references did show all the features of Applicants' claims, which they do not, the Examiner's Section 103(a) rejections would still not be tenable for the additional reason that the Examiner has not provided a proper motivation to combine the references to form the Examiner's combination. The Examiner merely asserts that:

[i]t would have been obvious . . . to have provided a thermally isolating interface in Sato et al. in order to permit a carefully controlled atmosphere and a precise temperature profile to be established in a heating chamber as taught by McGrath et al. (Office Action, pg. 3, para. 9)

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The Examiner's reasoning appears to be flawed. If Sato already included a thermally isolating interface in the form of a gate valve as the Examiner asserts, one of ordinary skill would not have been motivated to add the McGrath open ended baffle gate chamber to the Sato system because the gate valve allegedly already provides thermal isolation according to the Examiner. If the McGrath open ended baffle gate chamber replaced the Sato gate valve then the Sato system would not include two separate vacuum chambers.

More importantly, nothing in either the Sato reference or the McGrath reference suggests using an open ended baffle gate chamber between two vacuum chambers. In other words, the mere presence of a feature in a reference does not suggest that the feature should be applied to a system described in another reference. The Examiner is respectfully reminded that a proper motivation to combine must actually provide such a suggestion. In this case, the "carefully controlled atmosphere and a precise temperature profile" that the McGrath baffle gate chamber may help maintain in a furnace does not suggest applicability to the Sato vacuum chambers because the Sato vacuum chambers are presumably closed during heating. Thus, there is nothing to suggest that a McGrath baffle gate chamber would help maintain a "carefully controlled atmosphere and a precise temperature profile" in the Sato vacuum chambers.

The Examiner's stated motivation to combine Traum with Sato and McGrath is also improper. The Examiner states:

It would have been obvious to . . . have provided recesses with an air occupying volume in Sato et al. and McGrath et al. in order to define heat insulating cavities as taught by Traum

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As with the Sato and McGrath combination, the Examiner has merely listed a feature of the reference and asserted that the feature provides the motivation to combine. This is not an adequate motivation. The mere presence of recesses in the Traum gasket does not suggest adding recesses into either the gate valve of Sato or the McGrath baffle gate chamber. First, since the gate valve of Sato and the McGrath baffle gate chamber are not interfaces, the Examiner's reasoning fails. Second, there is no indication that either the gate valve of Sato or the McGrath baffle gate chamber would benefit from heat insulating cavities. In contrast, the McGrath reference in particular suggests that a baffle gate chamber provides sufficient insulation as disclosed.

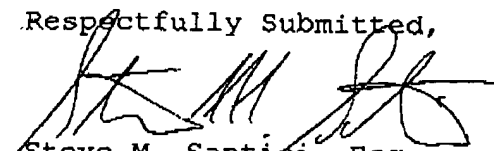
Therefore, as the Examiner has not provided a proper motivation to combine the references, Applicants respectfully request withdrawal of the section 103(a) rejections for this additional reason.

Applicants believe all of the claims are in condition for allowance, and respectfully request reconsideration and allowance of the same. Applicants have indicated any additional amount due regarding this amendment in the transmittal filed herewith. If any other fees are required, however, please charge Deposit Account No. **04-1696**. If an additional petition for extension of time is required, please accept this sentence as a request for additional time to respond and charge Deposit Account No. **04-1696** any required fees. Applicants encourage the

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Examiner to telephone the Applicant's attorney should any issues remain.

Respectfully Submitted,



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